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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Kevin M Mason  
Ryan Mason & Lewis LLP  
Suite 205  
1300 Post Road  
Fairfield, CT 06430

EXAMINER

LY, ANH VU H

ART UNIT

PAPER NUMBER

2667

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Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/668,242

Applicant(s)

BOYCE ET AL.

Examiner

Anh-Vu H Ly

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM  
THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-44 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,4,8-12,15-17,19,20,23-25,27,31-35,38,39,41 and 42 is/are rejected.
- 7) ☒ Claim(s) 3,5-7,13,14,18,21,22,26,28-30,36,37,40,43 and 44 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
  - I. Claims 1-44 are drawn to a method and system for processing multimedia data in a UDP layer of a wireless receiver, classified in class 370, subclass 469.
  - II. Claims 45-54 are drawn to a method and system for discarding a multimedia packet having an unrecoverable frame error by a receiver of a wired line network, classified in class 370, subclass 235.

During a telephone conversation with Kevin M. Mason on June 3, 2004 a provisional election was made without traverse to prosecute the invention of Group 1, claims 1-44.

Affirmation of this election must be made by applicant in replying to this Office action. Claims 45-54 are withdrawn from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

### ***Claim Objections***

2. Claim 12 is objected to because of the following informalities: line 4 currently read as “second set of said MDS codes are applied to of said information”, examiner believes it should read as “second set of said MDS codes are applied to each of said information”. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

3. Claims 1-2, 4, 15-17, 19, 23-25, 27, 38-39, and 41 are rejected under 35 U.S.C. 102(a) as being anticipated by Larzon, Lars-Ake et al. "Efficient Use of Wireless Bandwidth for Multimedia Applications". Mobile Multimedia Communications. 1999 IEEE International Workshop on 15-17 Nov. 1999, pages 187-193.

With respect to claims 1, 16, 24, and 38, Larzon discloses on page 190 that a simple but undesirable solution is to let the link layer (RLP layer) ignore errors in frames carrying UDP Lite packets and rely on the checksum of UDP Lite to catch errors in the headers. Herein, error information is interpreted as information or packets containing errors by the examiner. Therefore, the link layer ignores errors in frames carrying UDP Lite packets and relies on the checksum UDP Lite to catch errors in the headers implying that the error information is received by the UDP Lite layer from the lower RLP layer (herein, the information or packets including multimedia data) (receiving error information with multimedia data from RLP layer by the UDP layer). Larzon discloses. Larzon discloses on page 187, 2<sup>nd</sup> col. – page 188, 1<sup>st</sup> col., that a transport protocol capable of delivering partially damaged payload (information containing errors) to codecs that permit this, while protecting vital header fields with a checksum (forwarding error information with multimedia data to a higher layer).

With respect to claims 2, 17, 25, and 39, Larzon discloses on page 190 that a simple but undesirable solution is to let the link layer (RLP layer) ignore errors in frames carrying UDP Lite packets and rely on the checksum of UDP Lite to catch errors in the headers. Herein, error

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information is interpreted as information or packets containing errors by the examiner (error information comprising a set of LTU error indicators associated with each packet).

With respect to claims 4, 19, 27, and 41, Larzon discloses on page 188, 1<sup>st</sup> col., that UDP Lite protocol provides an optionally partial checksum (CRC), which covers sensitive headers (performing a packet header CRC).

With respect to claims 15 and 23, Larzon discloses on page 189 that the Length field can be adjusted to be included in the checksum calculation (UDP layer specifies additional packet handling procedures in accordance with a complete UDP).

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 8-12, 20, 31-35, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Larzon, Lars-Ake et al. "Efficient Use of Wireless Bandwidth for Multimedia Applications". Mobile Multimedia Communications. 1999 IEEE International Workshop on 15-17 Nov. 1999, pages 187-193 in view of Dillon et al (US Patent No. 6,430,233). Hereinafter, referred to as Larzon and Dillon.

With respect to claims 8-12, 20, 31-35, 42, Larzon discloses (see Abstract) UDP Lite for increasing the flexibility of UDP by providing an optionally partial checksum. Larzon does not disclose multimedia data has been encoded using Maximal Distance Separable codes. Dillon discloses (col. 15, lines 30-60) that MDS codes are used in applications data (Figs. 14-15). These codes consist of a binary array such that each packet is placed as one column, and the number of rows gives the length of the code in terms of packets. These codes are often MDS, which implies that  $r$  redundant parity packets can correct  $r$  erasures. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the feature of encoding multimedia data with MDS codes in Larzon's system, as suggested by Dillon, since MDS coding can be effectively correct  $r$  erasures based on  $r$  redundant parity packets.

***Allowable Subject Matter***

5. Claims 3, 5-7, 13-14, 18, 21-22, 26, 28-30, 36-37, 40, and 43-44, are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Hameleers et al (US Patent No. 6,377,799) discloses interworking function in an IP based radio telecommunications network.

Ludwig et al (US Patent No. 6,697,352) discloses communication device and method.

Molloy et al (US Patent No. 6,591,382) discloses performance improvement of IP over wireless connections.

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Weng et al (US Patent No. 6,651,214) discloses bi-directional decodable Reed-Solomon codes.

Zhang et al (US Pub No. 2002/0054578) discloses channel and quality of service adaptation for multimedia over wireless networks.

Sen et al (US Patent No. 6,208,620) discloses TCP-aware agent sublayer for robust TCP over wireless.

Strawczynski et al (US Patent No. 6,148,422) discloses telecommunication network utilizing an error control protocol.

Ahmadvand et al (US Patent No. 6,542,490) discloses data link control protocol for a 3G wireless system.

Dent (US Patent No. 6,571,212) discloses mobile IP voice system.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anh-Vu H Ly whose telephone number is 703-306-5675. The examiner can normally be reached on Monday-Friday 7:00am - 4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chi Pham can be reached on 703-305-4378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

avl

  
CHI PHAM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2600 6/1/09